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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,037	07/29/2003	Richard Henry Parker	5601	9275

7590

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EXAMINER
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ZIMMER, MARC S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/631,037

Applicant(s)

PARKER, RICHARD HENRY

Examiner

Marc S. Zimmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### ***Election/Restrictions***

This application contains claims directed to the following patentably distinct species of the claimed invention: all of the polymer compounds outlined in claim 5.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 5, 10, and 18 are generic.

During a telephone conversation with John Vick on October 7, 2004 a provisional election was made without traverse to prosecute the embodiment of the invention wherein the second polymer is ethylene-methyl acrylate copolymer. Affirmation of this election must be made by applicant in replying to this Office action.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

An IPN comprising a crosslinkable polysiloxane and ethylene-methyl acrylate was not found so the Examiner expanded his search to include other members of the Markush group outlined in claim 5.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for select embodiments of a polymer having a cohesion parameter of between 13 and 19 MPa<sup>1/2</sup>, it does not reasonably provide enablement for the breadth of polymers that may possess this characteristic. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to prepare the invention commensurate in scope with these claims.

The question of whether or not a scope of enablement problem is presented by the claim language is answered by applying the criteria outlined in *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). *Wands* sets forth several factors that must be considered in making a determination of whether undue experimentation would be required for even the skilled artisan to practice the claimed invention. Among the factors delineated therein are (i) the breadth of the claims, (ii) the nature of the invention, (iii) the existence of working Examples, (iv) the level of predictability, etc.

In the Examiner's estimation claim 1 (10), and even claim 5 (18), are fairly broad insofar as there can be *thousands* of polymer materials that adhere to the property limitation disclosed in claim 1. Although claim 5 (18) further limits the second polymer to one selected from about three dozen classes of polymer, it is to be noted that the Specification seems to indicate that not all species within a genus will inherently satisfy the mandated cohesion parameter range. Indeed, pages 10-12 list various types of polymer that are purported to have the desired cohesion parameter but approximately

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half of the entries also recite a specific product by its commercial product name.

Although it is quite possible that Applicant is merely stating one preferred species from within that genus, it cannot be fully discounted that the specified materials are the only ones meeting Applicant's requirements.

As an illustration of the Examiner's concerns, Applicant is referred to commonly assigned U.S. Patent No. 6,348,543, which seems to teach an equivalent formulation with the second polymer being a copolymer of ethylene and methyl acrylate yet Applicant has pointed out in paragraph 11 of the Specification that, in fact, this system does not have the needed compatibility between polymers (where compatibility is reflected in how similar the values of the cohesion parameters of the two polymers are according to paragraph 12). Whereas VAMAC D (example 1) and Levapren 400 (example 2) are employed as the ethylene/methyl acrylate copolymers in the reference formulation, Applicant identifies VAMAC 2036-1 as the ethylene/methyl acrylate having utility in the instant invention. Given that VAMAC D, Levapren 400, and VAMAC 2036-1 are all ethylene/methyl acrylate copolymers but only the latter of the three fulfills Applicant's requirements with respect to the cohesion parameter, there is obviously a significant degree of unpredictability associated with this aspect of the invention. Applicant's mention of numerous specific compounds notwithstanding, there seems to be too much unpredictability associated with this aspect for the full scope of the claims to be readily discerned. When using at least those classes of polymer where a specific product is disclosed (and perhaps all of the polymer classes outlined on pages 10-12 and in claims 5 and 18) and any categories of polymer not mentioned in claim 5 but

available to the invention of claim 1, it appears that the skilled artisan would be compelled to measure the cohesion parameter associated with a given polymer within that class to ensure it had a cohesion parameter of between 13 and 19 MPa<sup>1/2</sup>. Having to perform this measurement on every polymer of interest is tantamount to undue experimentation in the Examiner's opinion.

*For the purpose of evaluating the instant invention against the prior art, it will be presumed that, for those polymers in claims 5 and 18 having a corresponding entry on pages 10-12 where a specific product is identified, only that species of the larger genus possesses the stipulated cohesion parameter. Where a specific compound is not provided for a genus of polymer compounds on pages 10-12, it will be assumed that every species within that genus, e.g. polyethylene, inherently possesses the required property.*

### **Claim Analysis**

It is appreciated that the Specification speaks at length about forming semi-interpenetrating networks by using a crosslinkable silicone in concert with the second polymer. However, it is to be emphasized for the record that the base claim only requires an admixture of a silicone polymer and a second polymer. Indeed, claims 1 and 10 do not even require the silicone to be crosslinkable.

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dillon et al., U.S. patent # 4,945,125. The abstract and column 3, lines 30-42 disclose all aspects of claims 1-5 with the notable exception of the cohesion parameter of the second polymer, which in this case is polytetrafluoroethylene. However, the cohesion parameter range is inherently satisfied by PTFE in view of Applicant's admission in claim 5 that this polymer is a preferred embodiment of the second polymer.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al., U.S. patent Application Publication No. 2004/0063803. Kim discloses polymer blends (paragraph 20) comprising a crosslinkable siloxane polymer and a non-silicone material selected from those outlined in paragraph 23. Relevant to the present discussion, polychloroprene is identified as a potential embodiment of the silicone. According to Kim, upon reacting the siloxane and crosslinking agent, a structure selected from that of a thermoplastic vulcanizate and an interpenetrating network is formed. As the crosslinkable siloxane, two-part mixtures comprising unsaturated group-functionalized siloxanes and organohydrogensiloxanes are contemplated in paragraph 32 as is a catalyst selected from platinum catalysts and peroxide catalysts. As was the case with PTFE, polychloroprene is mentioned in claim 5 as an embodiment of the second polymer having the required cohesion parameter.

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Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Zolotnitsky, U.S. patent # 5,648,426. Zolotnitsky discloses a silicone-thermoplastic IPN (column 2, line 43) derived from an addition-curable, two-part silicone (column 2, lines 49-67 through column 3, lines 1-18) and one of a number of different thermoplastics including polyethylene and polypropylene (column 3, lines 25-28). The catalysts employed for crosslinking the organosilicon materials include various platinum complexes (column 3, lines 49-55). Polyethylene is an embodiment of the second polymer mentioned in claim 5 and, hence, will inherently possess the required cohesion parameter.

Claims 6-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action. The Examiner was not able to ascertain an express motivation for adding any of the materials set forth in claims 6-9 to the products disclosed by the aforementioned references. Claims 10-20 are allowable over the prior art because, while there are numerous examples of airbag coatings having polysiloxane as a primary constituent, there was no mention of the utilization of silicone-based semi-IPNs as coating materials for airbags.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone



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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 16, 2004

*Marc Zimmer*

*Marc Zimmer*

*AU 1712*